

REMARKS

The present application was filed on September 7, 2000 with claims 1-15. In the outstanding Office Action dated May 7, 2003, the Examiner: (i) again indicated that claims 5, 10 and 15 are allowable; and (ii) again rejected claims 1-4, 6-9 and 11-14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,208,897 to Hutchins (hereinafter "Hutchins") in view of "Using Alternate Spellings to Generate Baseforms," IBM Technical Disclosure Bulletin, vol. 35, issue 1a, pp. 59, 1992 (hereinafter "TDB").

In this response, Applicants reassert their traversal of the §103(a) rejections to claims 1-4, 6-9 and 11-14 for at least the reasons given below.

Applicants again acknowledge allowance of claims 5, 10 and 15.

Regarding the §103(a) rejections of claims 1-4, 6-9 and 11-14 based on the combination of Hutchins and TDB, Applicants respectfully reassert that the cited combination fails to establish a prima facie case of obviousness under 35 U.S.C. §103(a), as specified in M.P.E.P. §2143.

As set forth therein, M.P.E.P. §2143 states that three requirements must be met to establish a prima facie case of obviousness. First, the cited combination must teach or suggest all the claim limitations. Second, there must be some suggestion or motivation to combine reference teachings. Third, there must be a reasonable expectation of success. While it is sufficient to show that a prima facie case of obviousness has not been established by showing that one of the requirements has not been met, Applicants respectfully believe that none of the requirements have been met.

Prior to pointing out the deficiencies in the cited combination in view of the above-described requirements, Applicants again provide a summary, illustrative explanation of the invention in a sincere effort to clarify for the Examiner what the invention is directed toward and where it may be used. Applicants believe that, given this explanation and the discussion of the deficiencies of the cited combination to follow, it will be evident that the §103(a) rejections should be withdrawn.

The present invention, for example, as recited in claim 1, provides a voice information registration method, employed by a speech recognition apparatus, which comprises the steps of: (a) obtaining a sentence group, which includes a first to an N-th sentence, wherein N is a number equal to or greater than two; (b) obtaining a sounds-like spelling for a word that is included in an i-th

sentence, but is not entered in a speech recognition dictionary, wherein  $i$  is a number equal to or less than  $N$ ; (c) obtaining a base form based on said sounds-like spelling of said word; and (d) registering said base form in a speech recognition dictionary in correlation with said word.

By way of further explanation, the present specification, at page 1, lines 8-19, describes one problem that the claimed invention addresses:

As is described in Japanese Unexamined Patent Publication No. Hei 10-320168, the disclosure of which is incorporated by reference herein, a conventional method is available whereby voice is used to specify information displayed on a screen. However, to use this method, a menu or a button in an application, and a sentence in which a link to a web is included must be registered using words that can be recognized by a speech recognition system.

All of the character strings for a menu, in this case, can be statically added to a speech recognition dictionary, but since the web link would tend to be changed daily, coping with such a change would exceed the capabilities of a method for which static registration is employed. In addition, if too many words, more than are necessary, are added to the dictionary, other problems, such as a reduction in the recognition accuracy or an extended processing time, may be encountered.

The present specification, at page 2, lines 4-12, then provides an illustrative description of how the registration method of the invention may be realized, thus overcoming the above-described problem:

A group of sentences to be recognized is obtained from an application, and using parsing logic, each target sentence to be recognized is divided into words, speech recognition units. Thereafter, the words in each target sentence are examined to determine whether among them there are unknown words that are not registered in the speech recognition dictionary, but for which the sounds-like spelling is available. If an unknown word is found, a base form, for which the pronunciation is inferred from the sounds-like spelling, is prepared and is registered in the speech recognition dictionary. This base form is employed when the voice of a user is recognized who has orally designated one of the sentences.

Thus, the invention is directed toward techniques for registering unknown words such that these words may then be used in techniques for recognizing speech uttered by a user. By way of one example, the unknown words may be words associated with a web link, which, as mentioned above,

tend to change.

First, with respect to independent claims 1, 2, 6, 7, 11 and 12, the collective teaching of Hutchins and TDB fails to suggest or render obvious the elements of such claims. For at least this reason, a prima facie case of obviousness has not been established.

Hutchins discloses techniques for recognizing speech, and does not disclose registration techniques, as in the claimed invention. More particularly, the abstract of Hutchins discloses a method for speech recognition which includes steps of sampling a speaker's speech and providing speech data sample segments of predetermined length at predetermined sampling intervals based on changes in energy in the speech. TDB discloses a technique for building word models for a speech recognition system that includes a user entering a "sounds-like spelling."

The Office Action (at paragraph 5) contends again that Hutchins discloses the steps/operations of independent claims 1, 2, 6, 7, 11 and 12 including: "obtaining a sentence group . . . sentence;" "obtaining a spelling . . . speech recognition dictionary;" "obtaining a base form . . . word;" and "registering said base form . . . said word." The Office Action again acknowledges that Hutchins does not disclose "sounds-like spellings," however, points out that TDB uses "sounds-like spellings." The Office Action then summarily concludes that it would have been obvious to combine the two references to achieve the claimed invention. Applicants strongly disagree.

The first step of independent claim 1 of the present invention recites "obtaining a sentence group. . ." The Office Action alleges that a section of Hutchins describing word grammar (words to phrases) discloses this step. However, this section of Hutchins discloses the process of combining individual words from digitized speech to form phrases in the word recognition process. This combination of individual words does not disclose the obtaining of groups of sentences in a word registration process.

The second step of independent claim 1 of the present invention recites "obtaining a sounds-like spelling for a word that is included in an i-th sentence, but is not entered in a speech recognition dictionary . . ." The Examiner admits that Hutchins does not disclose the use of a sounds-like spelling. However, the Office Action alleges that a section of Hutchins describing the ASCII spelling of words as output resulting from incoming speech, discloses the remainder of this step.

However, ASCII output occurs once the word recognition process is complete and the spoken words were found in a recognition dictionary. Therefore, Hutchins does not disclose providing a spelling of a word that is not entered in a speech recognition dictionary as part of a word registration process.

The third step of independent claim 1 of the present invention recites “obtaining a base form based on said sounds-like spelling of said word . . .” The Office Action alleges that a section of Hutchins that relates to processing subsyllables and syllables discloses this step. However, in the present invention the base form of a word is based on a sounds-like spelling in a word registration process. This differs significantly from syllable processing in a speech recognition process, as described in Hutchins.

The fourth step of independent claim 1 of the present invention recites “registering said base form in a speech recognition dictionary in correlation with said word.” The Office Action again alleges that a section of Hutchins relating to a word recognition process combining subsyllables to form syllables, and combining syllables to form words, discloses this step. As stated above, these syllables and subsyllables are not registered as a part of the speech registration process. Thus, Hutchins does not disclose the speech registration elements recited in independent claim 1 or the remaining independent claims of the present invention.

As explained above, Hutchins is directed only toward speech recognition, not unknown word registration. While registered words are eventually used to recognize speech in the present invention, the techniques for realizing the two concepts are significantly different. In response to arguments previously submitted by the Applicants, the Office Action contends that Hutchins teaches word recognition and uses the word recognition system to improve the accuracy of the existing vocabulary or to increase the existing vocabulary, thereby inherently teaching word registration. However, Hutchins does not contain the disclosure which is necessary to support a claim rejection on the basis of inherency. According to the Court of Customs and Patent Appeals (CCPA), “Inherency does not mean that a thing might be done, or that it might happen, ...; but it must be disclosed, if inherency is claimed, that the thing will necessarily happen.” In re Draeger et al., 150 F.2d 572, 574 (CCPA 1945) (emphasis supplied). Furthermore, the well settled law “requires that inherency may not be established by possibilities and probabilities. The evidence must show that

the inherency is necessary and inevitable.” Interchemical Corp. v. Watson, 145 F.Supp. 179, 182, 111 USPQ 78, 79 (D. D.C. 1956) (emphasis supplied), *aff’d*, 251 F.2d 390, 116 USPQ 119 (D.C. Cir. 1958).

Additionally, “in relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). As acknowledged by the Examiner, there is an absence of any teaching of word registration in Hutchins. Therefore, there is no reasonable basis for an assertion that a resulting word registration system necessarily flows from the system disclosed in the Hutchins reference, and thus is inherent. No such basis and/or technical reasoning has been provided by the Examiner in the present Office Action.

Furthermore, with respect to TDB, while discussing the use of “sounds-like spellings,” TDB explains that a user may enter a “sounds-like spelling” to assist in building word models. This is significantly different than the steps/operations of the claimed invention since TDB, other than stating that a user may enter a “sounds-like spelling,” is silent as how a word model is formed given the “sounds-like spelling.” Thus, TDB suggests nothing about obtaining a sentence group, obtaining a sounds-like spelling for a word that is included in an *i*-th sentence, but is not entered in a speech recognition dictionary, obtaining a base form based on said sounds-like spelling of said word, and registering said base form in a speech recognition dictionary in correlation with said word, as recited in the claimed invention.

Applicants do not assert that they have developed the concept of “sounds-like spellings.” Such spellings are known, for example, as evidenced by TDB. However, the automated use of “sounds-like spellings” as recited in the registration techniques of the claimed invention was not known prior to the invention and is clearly not taught or suggested by the combination of Hutchins and TDB.

Also, with specific regard to claims 2, 7 and 12, despite a contention in the Office Action to the contrary, neither Hutchins nor TDB disclose obtaining voice information that is input as a user reads and vocally reproduces a display corresponding to the *i*-th sentence, as in the claimed

invention.

Therefore, as pointed out above, since both Hutchins and TDB fail to teach or suggest the limitations of claims 1, 2, 6, 7, 11 and 12, their combination also fails to do so.

Second, with respect to independent claims 1, 2, 6, 7, 11 and 12, Applicants reassert that no motivation or suggestion exists to combine Hutchins and TDB in a manner proposed by the Examiner, or to modify their teachings to meet the claim limitations. For at least this reason, a prima facie case of obviousness has not been established. In the response to arguments previously set forth by the Applicants, the Examiner states that the motivation for combining the references is so that the user may type in the spelling to improve the recognition process. However, the present invention incorporates sounds-like spellings into a speech registration system, which are used to form base words that are then registered in a recognition dictionary. Therefore, Applicants still fail to see the motivation or suggestion to combine the very specific subsyllable speech recognition techniques of Hutchins with the word model building techniques of TDB. While both references generally relate to aspects of speech recognition, Applicants strongly believe that one ordinarily skilled in the art would not look to the word model building techniques of TDB to find inspiration to improve the very specific subsyllable speech recognition techniques of Hutchins, or vice versa.

Furthermore, the Federal Circuit has stated that when patentability turns on the question of obviousness, the obviousness determination “must be based on objective evidence of record” and that “this precedent has been reinforced in myriad decisions, and cannot be dispensed with.” In re Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002). Moreover, the Federal Circuit has stated that “conclusory statements” by an examiner fail to adequately address the factual question of motivation, which is material to patentability and cannot be resolved “on subjective belief and unknown authority.” Id at 1343-1344.

In the final Office Action at paragraphs 5 and 6, the Examiner provides the following statements to prove motivation to combine Hutchins and TDB, with emphasis supplied: “it would have been obvious . . . to modify the teachings of Hutchins with a ‘sounds like spelling’ technique because it would advantageously allow user to enter the information more accurately that the phonetic pronunciations . . . the motivation is allowing the user to type in the spelling to improve the

recognition.” Applicants submit that these statements are based on the type of “subjective belief and unknown authority” that the Federal Circuit has indicated provides insufficient support for an obviousness rejection. More specifically, the Examiner fails to identify any objective evidence of record which supports the proposed combination.

Lastly, with respect to independent claims 1, 2, 6, 7, 11 and 12, Applicants reassert that there is no reasonable expectation of success in achieving the present invention through a combination of Hutchins and TDB. For at least this reason, a prima facie case of obviousness has not been established. Despite the assertion in the final Office Action, Applicants do not believe that Hutchins and TDB are combinable since it is not clear how one would combine them. No guidance was provided in the final Office Action as to how the two references can be combined to achieve the present invention. However, even if combined, for the sake of argument, they would not achieve the automated registration techniques of the claimed invention. For example, elements of a word registration system are not described in either reference, and the use of a sounds-like spelling in a word recognition process differs from obtaining a sounds-like spelling in a word registration process for obtaining the base form of a word, as described in the independent claims of the present invention.

Therefore, for at least the reasons given above, Applicants again respectfully request that the §103(a) rejections of independent claims 1, 2, 6, 7, 11 and 12 be withdrawn.

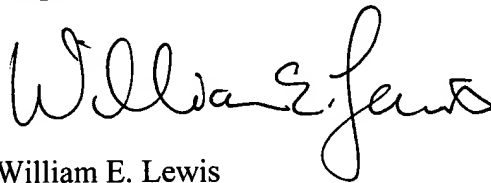
Furthermore, it is respectfully reasserted that the claims which respectively depend from independent claims 2, 7 and 12, i.e., claims 3, 4, 8, 9, 13 and 14, are patentable over the cited combinations. Thus, Applicants again request withdrawal of the §103(a) rejections of said claims.

In addition, it is asserted that dependent claims 3, 4, 8, 9, 13 and 14 recite patentable subject matter in their own rights. Claims 3, 8 and 13 recite that the group of sentences is obtained from an application and that a control message corresponding to the i-th sentence is generated and transmitted to the application. There is no application or control message disclosed in Hutchins or TDB. Further, claims 4, 9 and 14 recite that a sounds-like spelling score is stored in correlation with the sounds-like spelling of the word, that a pronunciation score is stored in correlation with the base form, and that the base form is registered in a speech recognition dictionary when a function value

that is obtained by using the sounds-like spelling score and the pronunciation score exceeds a threshold value. Again, Hutchins and TDB are completely silent as to the use of any scores stored in correlation with sounds-like spellings and base forms. In response to the arguments previously presented by the Applicants, the Examiner stated that the response fails to comply with 37 C.F.R. §1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. However, as presented above, the patentable language of the claims is fully presented and not disclosed in the references cited by the Examiner.

In view of the above, Applicants believe that claims 1-15 are in condition for allowance, and again respectfully request withdrawal of the §103(a) rejection.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "William E. Lewis". The signature is fluid and cursive, with the first name "William" being the most prominent part.

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